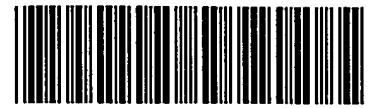


## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/530,753  
Source: PG  
Date Processed by STIC: 3/22/06

***ENTERED***



PCT

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/530,753

DATE: 03/22/2006

TIME: 15:26:38

Input Set : A:\SEQLIST223002100300.TXT  
 Output Set: N:\CRF4\03222006\J530753.raw

4 <110> APPLICANT: Chiron Corporation  
 5 Pizza, Mariagrazia  
 7 <120> TITLE OF INVENTION: Polypeptide-Vaccines for Broad  
 8 Protection Against Hypervirulent Meningococcal Lineages  
 11 <130> FILE REFERENCE: 22300-21003.00  
 13 <140> CURRENT APPLICATION NUMBER: 10/530,753  
**C--> 14 <141> CURRENT FILING DATE: 2005-04-08**  
 16 <150> PRIOR APPLICATION NUMBER: WO PCT/IB03/04848  
 17 <151> PRIOR FILING DATE: 2003-10-02  
 19 <150> PRIOR APPLICATION NUMBER: GB 0309115.4  
 20 <151> PRIOR FILING DATE: 2003-04-22  
 22 <150> PRIOR APPLICATION NUMBER: GB 0305831.0  
 23 <151> PRIOR FILING DATE: 2003-03-13  
 25 <150> PRIOR APPLICATION NUMBER: GB 0223741.0  
 26 <151> PRIOR FILING DATE: 2002-10-11  
 28 <160> NUMBER OF SEQ ID NOS: 12  
 30 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 32 <210> SEQ ID NO: 1  
 33 <211> LENGTH: 350  
 34 <212> TYPE: PRT  
 35 <213> ORGANISM: N. meningitidis  
 37 <400> SEQUENCE: 1  
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 39 1 5 10 15  
 40 Phe Cys Ser Gly Ala Leu Ala Ala Thr Asn Asp Asp Asp Val Lys Lys  
 41 20 25 30  
 42 Ala Ala Thr Val Ala Ile Ala Ala Ala Tyr Asn Asn Gly Gln Glu Ile  
 43 35 40 45  
 44 Asn Gly Phe Lys Ala Gly Glu Thr Ile Tyr Asp Ile Asp Glu Asp Gly  
 45 50 55 60  
 46 Thr Ile Thr Lys Lys Asp Ala Thr Ala Ala Asp Val Glu Ala Asp Asp  
 47 65 70 75 80  
 48 Phe Lys Gly Leu Gly Leu Lys Lys Val Val Thr Asn Leu Thr Lys Thr  
 49 85 90 95  
 50 Val Asn Glu Asn Lys Gln Asn Val Asp Ala Lys Val Lys Ala Ala Glu  
 51 100 105 110  
 52 Ser Glu Ile Glu Lys Leu Thr Thr Lys Leu Ala Asp Thr Asp Ala Ala  
 53 115 120 125  
 54 Leu Ala Asp Thr Asp Ala Ala Leu Asp Ala Thr Thr Asn Ala Leu Asn  
 55 130 135 140  
 56 Lys Leu Gly Glu Asn Ile Thr Thr Phe Ala Glu Glu Thr Lys Thr Asn  
 57 145 150 155 160  
 58 Ile Val Lys Ile Asp Glu Lys Leu Glu Ala Val Ala Asp Thr Val Asp

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/530,753

DATE: 03/22/2006

TIME: 15:26:38

Input Set : A:\SEQLIST223002100300.TXT

Output Set: N:\CRF4\03222006\J530753.raw

59	165	170	175
60	Lys His Ala Glu Ala Phe Asn Asp Ile Ala Asp Ser Leu Asp Glu Thr		
61	180	185	190
62	Asn Thr Lys Ala Asp Glu Ala Val Lys Thr Ala Asn Glu Ala Lys Gln		
63	195	200	205
64	Thr Ala Glu Glu Thr Lys Gln Asn Val Asp Ala Lys Val Lys Ala Ala		
65	210	215	220
66	Glu Thr Ala Ala Gly Lys Ala Glu Ala Ala Gly Thr Ala Asn Thr		
67	225	230	235
68	240	245	250
69	Ala Ala Asp Lys Ala Glu Ala Val Ala Ala Lys Val Thr Asp Ile Lys		
70	260	265	270
71	Ala Asp Val Tyr Thr Arg Glu Glu Ser Asp Ser Lys Phe Val Arg Ile		
72	275	280	285
73	Asp Gly Leu Asn Ala Thr Thr Glu Lys Leu Asp Thr Arg Leu Ala Ser		
74	290	295	300
75	300	310	315
76	320	325	330
77	Ala Glu Lys Ser Ile Ala Asp His Asp Thr Arg Leu Asn Gly Leu Asp		
78	335	330	335
79	340	345	350
80	Gln Ala Ala Leu Ser Gly Leu Phe Gln Pro Tyr Asn Val Gly		
81	340	345	350
84	<210> SEQ ID NO: 2		
85	<211> LENGTH: 327		
86	<212> TYPE: PRT		
87	<213> ORGANISM: N. meningitidis		
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90	Ala Thr Asn Asp Asp Asp Val Lys Lys Ala Ala Thr Val Ala Ile Ala		
91	1	5	10
92	15	20	25
93	Ala Ala Tyr Asn Asn Gly Gln Glu Ile Asn Gly Phe Lys Ala Gly Glu		
94	30	35	40
95	45	40	45
96	45	40	45
97	50	55	60
98	60	65	70
99	75	70	75
100	80	75	80
101	85	90	95
102	95	100	105
103	110	105	110
104	110	115	120
105	125	120	125
106	125	130	135
107	140	135	140
108	140	145	150
109	160	155	160
110	160	160	160
	Ala Asp Ser Leu Asp Glu Thr Asn Thr Lys Ala Asp Glu Ala		

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/530,753

DATE: 03/22/2006

TIME: 15:26:38

Input Set : A:\SEQLIST223002100300.TXT  
 Output Set: N:\CRF4\03222006\J530753.raw

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112 Val Lys Thr Ala Asn Glu Ala Lys Gln Thr Ala Glu Glu Thr Lys Gln
113          180          185          190
114 Asn Val Asp Ala Lys Val Lys Ala Ala Glu Thr Ala Ala Gly Lys Ala
115          195          200          205
116 Glu Ala Ala Ala Gly Thr Ala Asn Thr Ala Ala Asp Lys Ala Glu Ala
117          210          215          220
118 Val Ala Ala Lys Val Thr Asp Ile Lys Ala Asp Ile Ala Thr Asn Lys
119 225          230          235          240
120 Asp Asn Ile Ala Lys Lys Ala Asn Ser Ala Asp Val Tyr Thr Arg Glu
121          245          250          255
122 Glu Ser Asp Ser Lys Phe Val Arg Ile Asp Gly Leu Asn Ala Thr Thr
123          260          265          270
124 Glu Lys Leu Asp Thr Arg Leu Ala Ser Ala Glu Lys Ser Ile Ala Asp
125          275          280          285
126 His Asp Thr Arg Leu Asn Gly Leu Asp Lys Thr Val Ser Asp Leu Arg
127          290          295          300
128 Lys Glu Thr Arg Gln Gly Leu Ala Glu Gln Ala Ala Leu Ser Gly Leu
129 305          310          315          320
130 Phe Gln Pro Tyr Asn Val Gly
131          325
134 <210> SEQ ID NO: 3
135 <211> LENGTH: 248
136 <212> TYPE: PRT
137 <213> ORGANISM: N. meningitidis
139 <400> SEQUENCE: 3
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142 Leu Asp His Lys Asp Lys Gly Leu Gln Ser Leu Thr Leu Asp Gln Ser
143          20          25          30
144 Val Arg Lys Asn Glu Lys Leu Lys Leu Ala Ala Gln Gly Ala Glu Lys
145          35          40          45
146 Thr Tyr Gly Asn Gly Asp Ser Leu Asn Thr Gly Lys Leu Lys Asn Asp
147          50          55          60
148 Lys Val Ser Arg Phe Asp Phe Ile Arg Gln Ile Glu Val Asp Gly Gln
149 65          70          75          80
150 Leu Ile Thr Leu Glu Ser Gly Glu Phe Gln Val Tyr Lys Gln Ser His
151          85          90          95
152 Ser Ala Leu Thr Ala Phe Gln Thr Glu Gln Ile Gln Asp Ser Glu His
153          100         105         110
154 Ser Gly Lys Met Val Ala Lys Arg Gln Phe Arg Ile Gly Asp Ile Ala
155          115         120         125
156 Gly Glu His Thr Ser Phe Asp Lys Leu Pro Glu Gly Gly Arg Ala Thr
157          130         135         140
158 Tyr Arg Gly Thr Ala Phe Gly Ser Asp Asp Ala Gly Gly Lys Leu Thr
159 145         150         155         160
160 Tyr Thr Ile Asp Phe Ala Ala Lys Gln Gly Asn Gly Lys Ile Glu His
161          165         170         175
162 Leu Lys Ser Pro Glu Leu Asn Val Asp Leu Ala Ala Asp Ile Lys

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/530,753

DATE: 03/22/2006

TIME: 15:26:38

Input Set : A:\SEQLIST223002100300.TXT

Output Set: N:\CRF4\03222006\J530753.raw

163           180           185           190  
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 165           195           200           205  
 166 Gln Ala Glu Lys Gly Ser Tyr Ser Leu Gly Ile Phe Gly Gly Lys Ala  
 167           210           215           220  
 168 Gln Glu Val Ala Gly Ser Ala Glu Val Lys Thr Val Asn Gly Ile Arg  
 169 225           230           235           240  
 170 His Ile Gly Leu Ala Ala Lys Gln  
 171           245  
 174 <210> SEQ ID NO: 4  
 175 <211> LENGTH: 179  
 176 <212> TYPE: PRT  
 177 <213> ORGANISM: N. meningitidis  
 179 <400> SEQUENCE: 4  
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 181 1           5           10           15  
 182 Asp Arg Arg Thr Thr Gly Ala Gln Thr Asp Asp Asn Val Met Ala Leu  
 183           20           25           30  
 184 Arg Ile Glu Thr Thr Ala Arg Ser Tyr Leu Arg Gln Asn Asn Gln Thr  
 185           35           40           45  
 186 Lys Gly Tyr Thr Pro Gln Ile Ser Val Val Gly Tyr Asn Arg His Leu  
 187           50           55           60  
 188 Leu Leu Leu Gly Gln Val Ala Thr Glu Gly Glu Lys Gln Phe Val Gly  
 189 65           70           75           80  
 190 Gln Ile Ala Arg Ser Glu Gln Ala Ala Glu Gly Val Tyr Asn Tyr Ile  
 191           85           90           95  
 192 Thr Val Ala Ser Leu Pro Arg Thr Ala Gly Asp Ile Ala Gly Asp Thr  
 193           100           105           110  
 194 Trp Asn Thr Ser Lys Val Arg Ala Thr Leu Leu Gly Ile Ser Pro Ala  
 195           115           120           125  
 196 Thr Gln Ala Arg Val Lys Ile Val Thr Tyr Gly Asn Val Thr Tyr Val  
 197           130           135           140  
 198 Met Gly Ile Leu Thr Pro Glu Glu Gln Ala Gln Ile Thr Gln Lys Val  
 199 145           150           155           160  
 200 Ser Thr Thr Val Gly Val Gln Lys Val Ile Thr Leu Tyr Gln Asn Tyr  
 201           165           170           175  
 202 Val Gln Arg  
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 207 <211> LENGTH: 168  
 208 <212> TYPE: PRT  
 209 <213> ORGANISM: N. meningitidis  
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 214 Asp His Phe Asn Thr Ser Thr Asn Val Gly Gly Phe Tyr Gly Leu Thr  
 215           20           25           30  
 216 Gly Ser Val Glu Phe Asp Gln Ala Lys Arg Asp Gly Lys Ile Asp Ile  
 217           35           40           45  
 218 Thr Ile Pro Ile Ala Asn Leu Gln Ser Gly Ser Gln His Phe Thr Asp

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION: US/10/530,753**

**DATE: 03/22/2006**  
**TIME: 15:26:38**

**Input Set : A:\SEQLIST223002100300.TXT**  
**Output Set: N:\CRF4\03222006\J530753.raw**

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219      50          55          60
220 His Leu Lys Ser Ala Asp Ile Phe Asp Ala Ala Gln Tyr Pro Asp Ile
221 65           70          75          80
222 Arg Phe Val Ser Thr Lys Phe Asn Phe Asn Gly Lys Lys Leu Val Ser
223           85          90          95
224 Val Asp Gly Asn Leu Thr Met His Gly Lys Thr Ala Pro Val Lys Leu
225           100         105         110
226 Lys Ala Glu Lys Phe Asn Cys Tyr Gln Ser Pro Met Glu Lys Thr Glu
227           115         120         125
228 Val Cys Gly Gly Asp Phe Ser Thr Thr Ile Asp Arg Thr Lys Trp Gly
229           130         135         140
230 Met Asp Tyr Leu Val Asn Val Gly Met Thr Lys Ser Val Arg Ile Asp
231 145           150         155         160
232 Ile Gln Ile Glu Ala Ala Lys Gln
233           165
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237 <211> LENGTH: 464
238 <212> TYPE: PRT
239 <213> ORGANISM: N. meningitidis
241 <400> SEQUENCE: 6
242 Ser Pro Asp Val Lys Ser Ala Asp Thr Leu Ser Lys Pro Ala Ala Pro
243 1           5          10          15
244 Val Val Ser Glu Lys Glu Thr Glu Ala Lys Glu Asp Ala Pro Gln Ala
245           20          25          30
246 Gly Ser Gln Gly Gln Gly Ala Pro Ser Ala Gln Gly Ser Gln Asp Met
247           35          40          45
248 Ala Ala Val Ser Glu Glu Asn Thr Gly Asn Gly Gly Ala Val Thr Ala
249           50          55          60
250 Asp Asn Pro Lys Asn Glu Asp Glu Val Ala Gln Asn Asp Met Pro Gln
251 65           70          75          80
252 Asn Ala Ala Gly Thr Asp Ser Ser Thr Pro Asn His Thr Pro Asp Pro
253           85          90          95
254 Asn Met Leu Ala Gly Asn Met Glu Asn Gln Ala Thr Asp Ala Gly Glu
255           100         105         110
256 Ser Ser Gln Pro Ala Asn Gln Pro Asp Met Ala Asn Ala Ala Asp Gly
257           115         120         125
258 Met Gln Gly Asp Asp Pro Ser Ala Gly Gly Gln Asn Ala Gly Asn Thr
259           130         135         140
260 Ala Ala Gln Gly Ala Asn Gln Ala Gly Asn Asn Gln Ala Ala Gly Ser
261 145           150         155         160
262 Ser Asp Pro Ile Pro Ala Ser Asn Pro Ala Pro Ala Asn Gly Gly Ser
263           165         170         175
264 Asn Phe Gly Arg Val Asp Leu Ala Asn Gly Val Leu Ile Asp Gly Pro
265           180         185         190
266 Ser Gln Asn Ile Thr Leu Thr His Cys Lys Gly Asp Ser Cys Ser Gly
267           195         200         205
268 Asn Asn Phe Leu Asp Glu Glu Val Gln Leu Lys Ser Glu Phe Glu Lys
269           210         215         220
270 Leu Ser Asp Ala Asp Lys Ile Ser Asn Tyr Lys Lys Asp Gly Lys Asn

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**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/530,753

DATE: 03/22/2006

TIME: 15:26:39

Input Set : A:\SEQLIST223002100300.TXT

Output Set: N:\CRF4\03222006\J530753.raw

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date